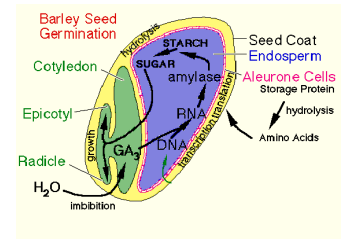


Why is focus drift of a microscope a problem to beer lovers?

The process of making beer starts with the harvesting and preparation of the barley seeds which creates the taste and most importantly offers the sugar source to create enough alcohol.



To unlock the source of starch and sugars, the barley seeds are left to start their germination process which physically breaks down the cell walls in the seed. The breaking down of the cell wall makes it easier and quicker to access these resources in the brewing process. But germinating too long and the resource is depleted and leaves for an inferior product.



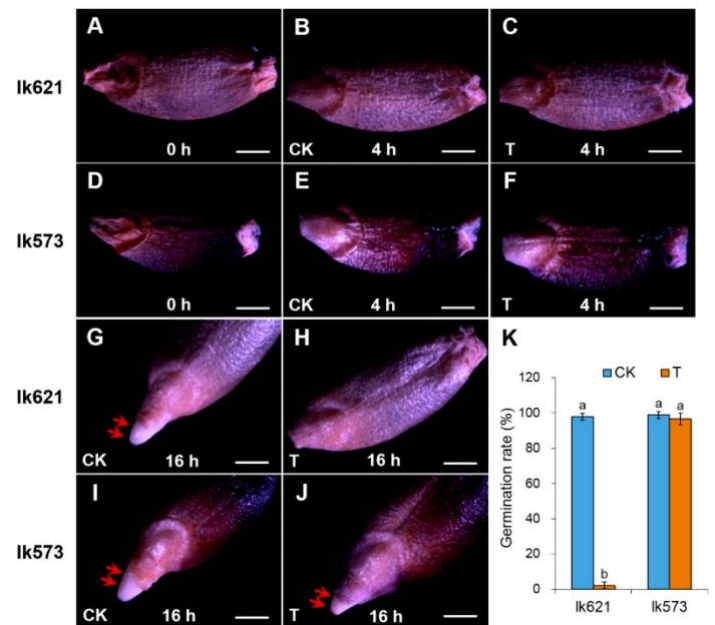
In the test laboratories, the new season's barley seeds are viewed under a microscope to establish how long it takes before the correct stage of the germination process has been reached.

The process can take anywhere from 2 days to 20 days depending on the experiment. Over this period, it would be expected that you can locate and image the seeds.

Using a digital camera and the microscope software program, it would be easy to program a microscope to automatically capture images with defined time intervals to show this process rather than needing to have a person do this manually.

This is where knowing the focal drift of a microscope is important.

Just a few micrometers of focal drift could very quickly lead to have poor quality images.



To ensure a microscope is being used as designed, we would like to know what the room conditions are as they have an influence on the focus and resolution of the lenses.

A temperature change of 1°C can lead to a drift of up to 5 µm which will impact the focus of the images seen above.